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ABSTRACT

ENHANCED SOLID OXIDE FUEL CELL SYSTEMS

5 Enhanced high temperature fuel cell systems, such as solid oxide fuel cell systems
and molten carbonate fuel cell systems are disclosed. Embodiments of the disclosure include
solid oxide and molten carbonate fuel cell systems incorporating gas separation apparatus
facilitating the recycle of hydrogen fuel from fuel cell anode exhaust for supply to the fuel
cell anode inlet. Further embodiments of the disclosure include solid oxide and molten
10 carbonate fuel cell systems incorporating inventive combinations of anode materials
conducive to combination with enriched hydrogen fuel. Other embodiments of the disclosure
include gas separation apparatus for providing enriched oxygen feed to the cathode inlet of
solid oxide and molten carbonate fuel cells.

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